

WARM-UP

$$1. m^2 \cdot m^4 = m^6$$

$$2. \frac{8q^6}{2q^2}$$

$$= 4q^4$$

$$3. 5a^{-4} = \frac{5}{a^4}$$

$$4. \frac{6b^2c^{-4}d}{b^2d}$$

$$5. \frac{15h^{-3}i^4j^5}{3h^7i^{-9}j^{-2}}$$

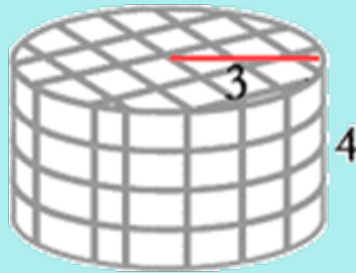
$$6. 5^0$$

Volume of a Cylinder

$$V = \pi \cdot r \cdot r \cdot h$$

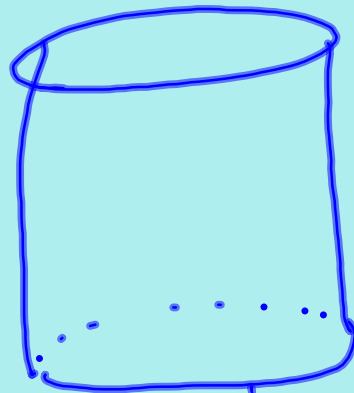
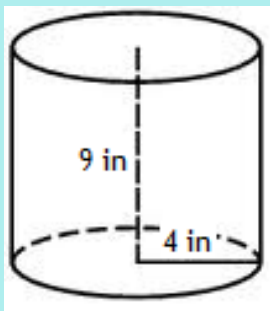
r = radius

h = height



Example 1

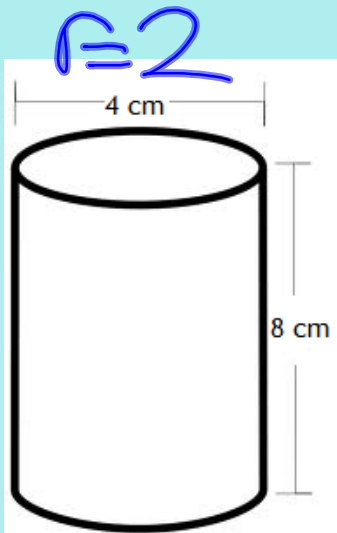
Find the volume.



$$\begin{aligned} V &= \pi \cdot r \cdot r \cdot h \\ V &= \pi \cdot 4 \cdot 4 \cdot 9 \\ V &= 452.39 \text{ in}^3 \end{aligned}$$

Example 2

Find the volume.

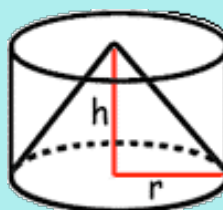
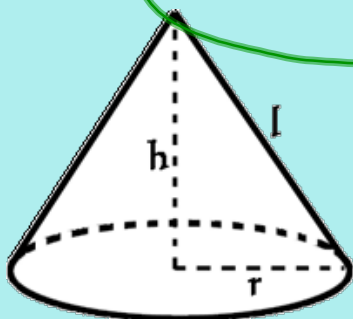


$$V = \pi \cdot r \cdot r \cdot h$$
$$V = \pi \cdot 2 \cdot 2 \cdot 8$$
$$V = 100.53 \text{ cm}^3$$

With a partner:

Discuss what you think the formula for the volume of a cone might be. Is it related to the volume of a cylinder?

$$V = \frac{\pi \cdot r \cdot r \cdot h}{3}$$

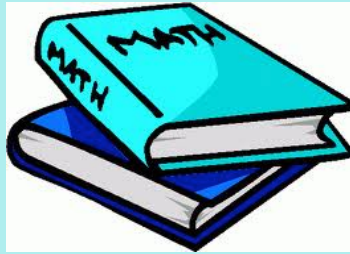


Cone and Cylinder Demonstration



(If demonstration is unavailable)

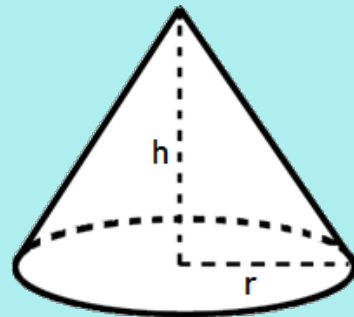
Dictionary Time!



Formula Page:

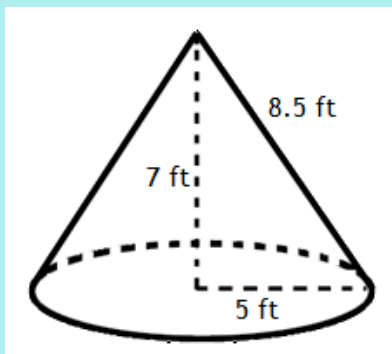
Volume of Cone = $\frac{\pi r^2 h}{3}$ $\frac{\pi \cdot r \cdot r \cdot h}{3}$

r = radius
 h = height



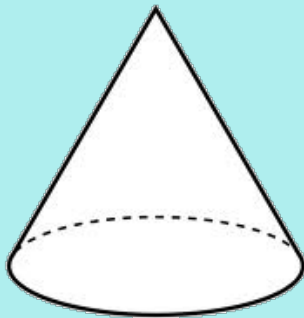
Example 3

Find the volume.



Example 4

Find the volume of a cone whose height is 6 meters and diameter is 5 meters.

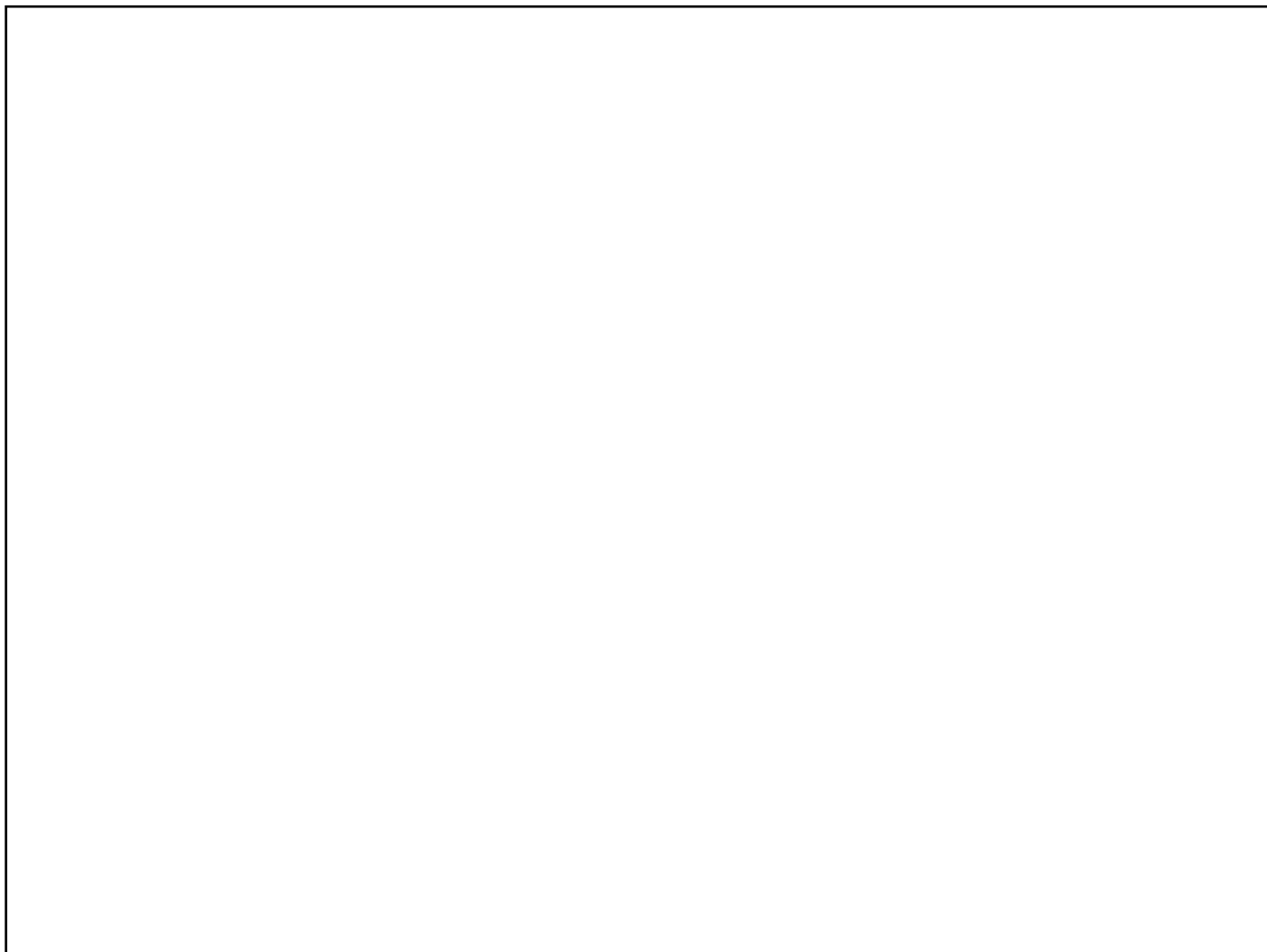


Planner Time!

Volume of Cylinders
and Cones WS

WHAT DID THE
ZERO SAY TO THE
EIGHT?

NICE BELT



Remember?...

What is volume? How are the units written?

What is the formula for volume of a cylinder?
(Discuss with a partner)

$$V = \pi \cdot r \cdot r \cdot h$$

